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Antillodesmus is a lepturodesmine genus (Polydesmida: Chelodesmidae)

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Abstract

The status of the poorly-known genus *Antillodesmus* is evaluated on the basis of its type species, *A. grenadanus* Chamberlin, restudied from topotypic material. The evidence from most character systems suggests placement in the tribe Lepturodesmini, already represented in northern South America by four genera.

The chelodesmid fauna of the Antilles is incompletely documented, yet the components so far known reflect some diversity in affinities and derivations. Of the 26 nominal genera atttributed to the region, some have been assigned to several disparate tribes of the family, as specified below:

1. *Antrogonodesmus*, a monotypic Cuban endemic, has been placed in the Chondrodesmini as an element both geographically and structurally disjunct within this tribe, which is centered on the northern Andean region in Colombia, Venezuela, and the Guianas (Hoffman, 2005).

2. *Caraibodesmus* (and its doubtfully distinct cognate *Platyurodesmus)*, both endemic in Jamaica, make up a tribe Caraibodesmini (Hoffman, 1979) suspected of having its closest affinity with a presently-undescribed tribe native to Central America.

3. A dozen or so genera endemic to Cuba, Hispaniola, and Puerto Rico appear to be quite closely related to each other (tribe so far unpublished), having probable affinities with genera in the Andes of Peru and Ecuador.

Remaining after the foregoing distribution is *Antillodesmus*, a poorly-known genus confined to the Windward Islands, which is not very compatible with any of the groups just mentioned. That it has not been the subject of serious consideration can be understood in the context of its brief history in the scientific literature.

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Having access to topotypical material of the type species *A. grenadanus* and representatives of several apparently related South American genera provided the opportunity to consider the status of the genus. I believe that a good case can be presented to justify assignation of *Antillodesmus* to the tribe Lepturodesmini.

Family CHELODESMIDAE Cook

It may be emphasized once again that the current division of this enormous family into the nominal categories Chelodesminae in the New World, and Prepodesminae in the Afrotropics, is strictly a matter of convenience and liable to be disavowed following completion of ongoing studies.

It seems reasonable to look for existing relatives of *Antillodesmus* in that part of South America closest to the Lesser Antilles. viz., north of the Amazon River, and east of the Andes. This region is inhabited by members of six tribes. Three of them (Batodesmini, Trachelodesmini, and Pandirodesmini) may be disqualified at once because of their many highly derived character systems.

Remaining for consideration are:

1. Trichomorphini. The several genera associated here (Hoffman, 1979) are confined to the Cordilleran region, Ecuador to Costa Rica, except for the geographically disjunct genus *Belonodesmus* (Chamberlin, 1918)represented by one species on Trinidad. An inconclusive examination of the type species, *B. thaxteri*, suggests that it may be only a species of *Trichomorpha,* perhaps introduced into Trinidad from some source in the Andes. In any event, trichomorphines differ from *Antillodesmus* by their nearly flat metaterga with distinct transverse sulcus, larger and more acutely produced paranota, peritrematic region merged anteriorly into the paranotal edge without offset, distally broadened epiproct, and gonocoxae with prominent dorsal apophysis. The only notable trichomorphine character shared by *Antillodesmus* is the presence of subtarsal tibial pads.

2. Chondrodesmini. As defined (Hoffman, 1978) and recently emended (2005), this tribe includes six genera extending from Guiana and Amazonia west across the Andes and north to southern Mexico; a seventh genus is isolated on Cuba. The body form is moderate to large, flattened dorsally with broad paranota, metaterga granulose or with rows of tubercles, peritremata either continuous with paranotal edge or set off by deep marginal notches, sterna broad, usually with subcoxal spines, legs without tibial pads (except in *Antrogonodesmus*), gonocoxae with dorsal apophysis of variable size and shape. As there seem to be no obvious taxonomic characters shared with *Antillodesmus,* the Chondrodesmini may be excluded as a possible placement.

3. Lepturodesmini. Species of this widespread taxon (Brazil to Trinidad and Oaxaca) vary substantially in body size, but tend to be dorsally convex with smooth metaterga lacking a transverse sulcus, and small paranota; greatest width usually occurs at segments 1-4. The peritremata are either simply a wide part of the paranotal edge, or set off in the form of an ovoid excrescence. Tibial pads and prefemoral distal knobs are usually present.

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Sternum of 6th segment of males concave. This combination of characters affords the closest match with *Antillodesmus*; in general facies a female specimen closely resembles a small species of *Camptomorpha*. The tribe is represented on Trinidad by the genera *Lepturodesmus* and *Zigwadesmus*, from which *Antillodesmus* differs in gonopod structure as well as by lacking any modification of the 3rd pair of legs (perhaps an instance of character-reversal).

On balance, I believe that selection of Lepturodesmini as the optimal taxon of placement for *Antillodesmus* is the choice that best reflects relationships at least in terms of present knowledge.

Tribe Lepturodesmini

Lepturodesmini Hoffman, 1975, Stud. Neotrop. Fauna, 10: 184; 2005, Myriapodologica, 8: 68.

In addition to the originally included taxa (*Lepturodesmus* Silvestri, 1898, *Eressea* Hoffman, 1975; *Zigwadesmus* Chamberlin, 1918; *Camptomorpha* Silvestri, 1898), this tribe now includes *Solaenorhabdus* Hoffman, 1950; *Rhaphandra* Loomis, 1966; and *Antillodesmus* Chamberlin, 1918.

Antillodesmus.

Antillodesmus Chamberlin, 1918, Bull. Mus. Comp. Zool., 62: 236. Type species: *A. grenadanus* Chamberlin, by original designation.

Definition: A lepturodesmine genus lacking modification of the 3rd legs of males; peritremata set off from paranotal margin, legs of males with both prefemoral knobs and tibial pads, sternum of 6th segment concave, epiproct not prolonged and decurved. Gonocoxae flattened, without apophysis or setae, prefemur short, subglobose, with elongate acicular process, acropodite with acuminate solenomere and elongate slender process from its base on ventral side.

Species: At present considered to be monotypic.

Distribution: The Windward Islands of Grenada and St. Vincent.

Antillodesmus vincentii (Pocock)

Figures 1-6.

Odontopeltis vincentii Pocock, 1894, Journ. Linnean Soc. London, 24: 514, pl. 39, figs. 4-4d. Male holotype (BMNH) from St. Vincent, without further locality.

Antillodesmus vincenti: Chamberlin, 1918, Bull. Mus. Comp. Zool., 62: 237.

Antillodesmus grenadanus Chamberlin, 1918, Bull. Mus. Comp. Zool., 62: 236. Male holotype (MCZ) from Grand Etang, Grenada.

Antillodesmus vincenti: Loomis, 1934, Smithsonian Misc. Coll., 89(14): 30, fig. 15. – Hoffman, 1999, Va. Mus. Nat. Hist. Spec. Publ. 8: 283.

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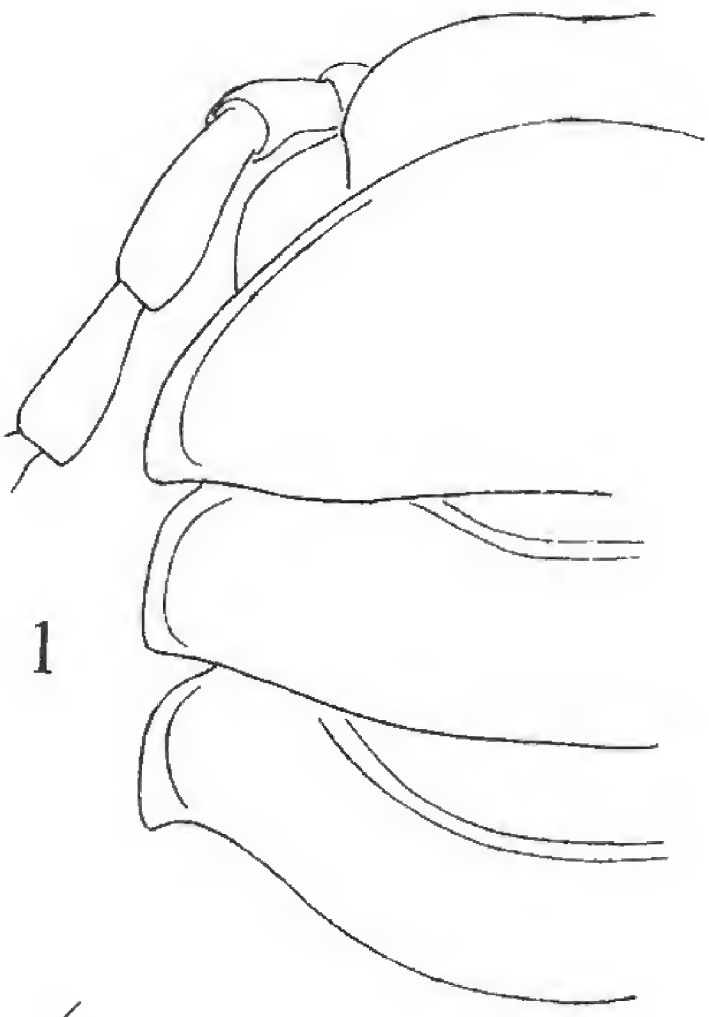

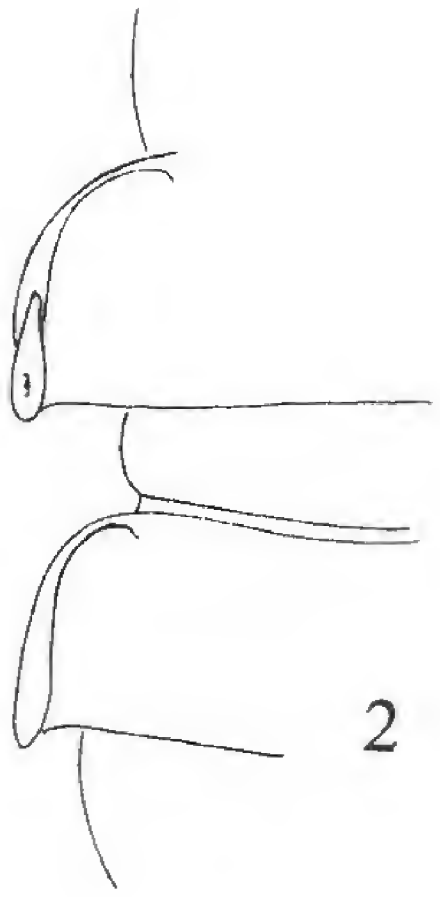

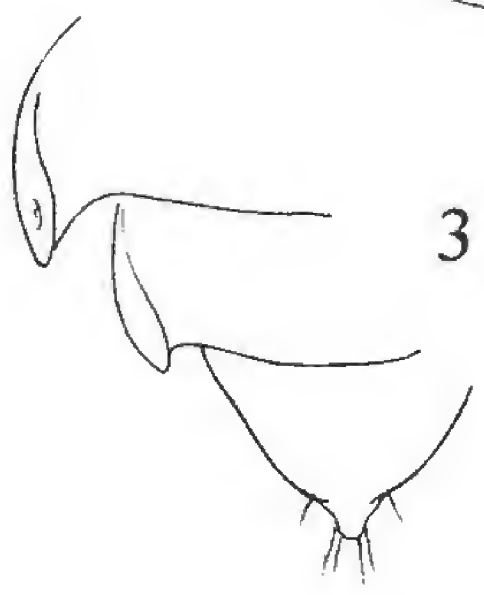

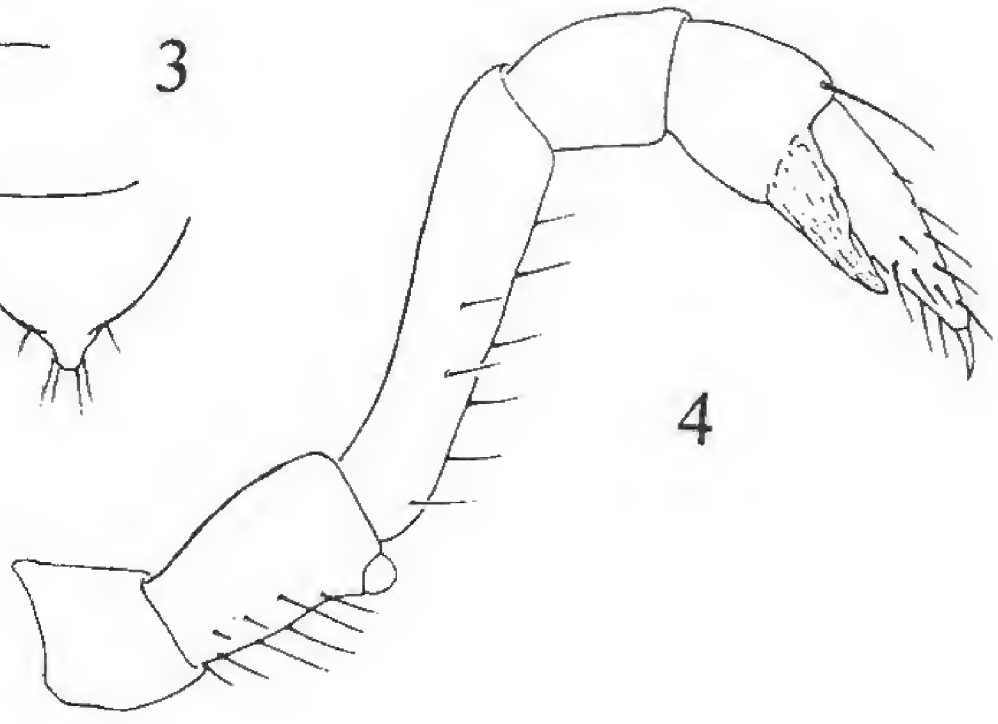

Figs. 1-4. *Antillodesmus vincentii* (Pocock). 1. Left side of head and segments 1-3, dorsal aspect. 2. Left paranota of segments 10 and 11, dorsal aspect. 3. Posterior end of body, dorsal aspect. 4. Leg from midbody segment of male, showing prefemoral knob and tibial pad.

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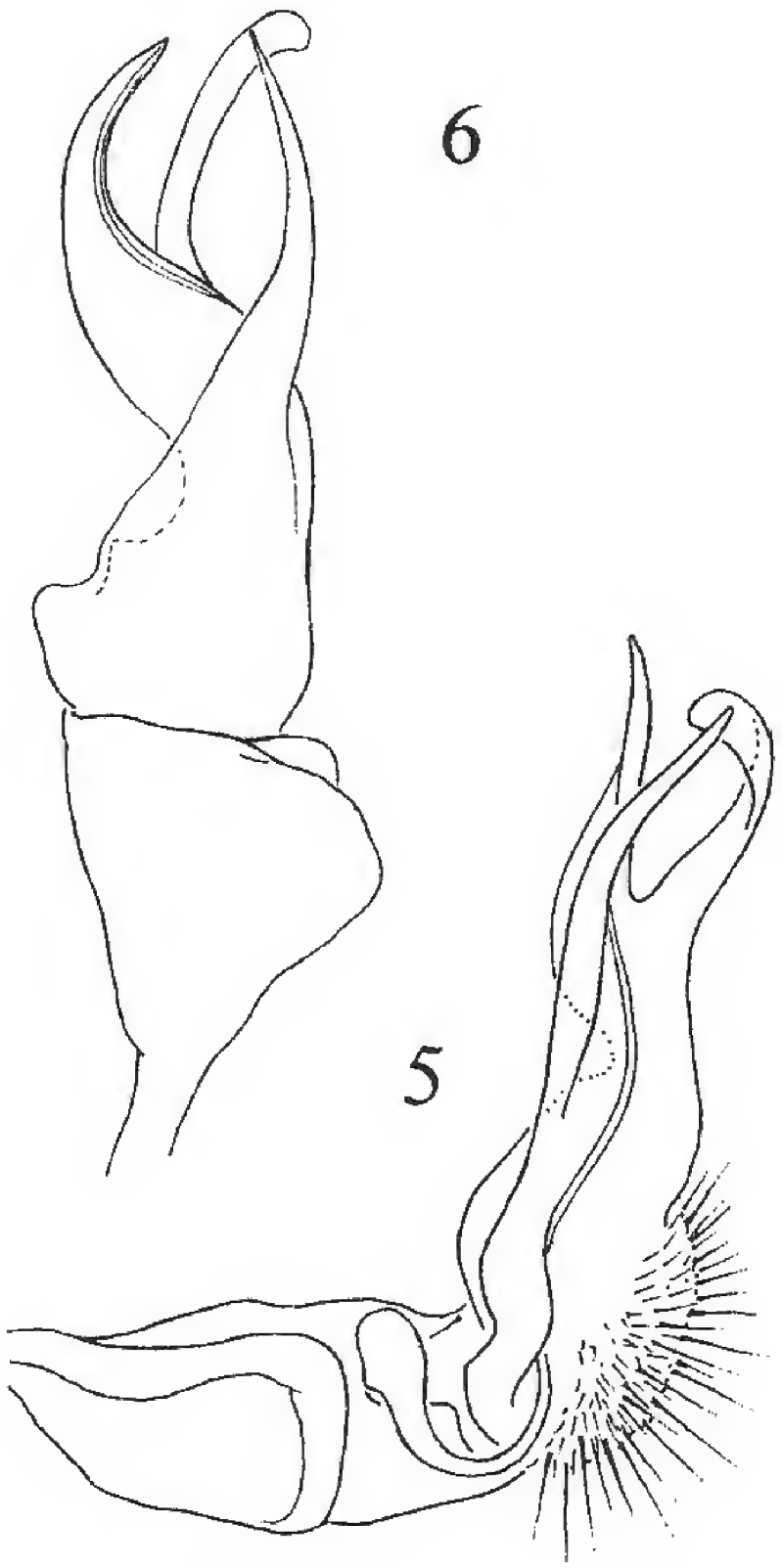

Figs. 5, 6. *Antillodesmus vincentii* (Pocock). 5. Left gonopod, mesal aspect. 6. Left gonopod, dorsal aspect.

The condition of the material at hand precludes preparation of a detailed description, the published accounts by Pocock and Chamberlin provide adequate information on details of peripheral characters. Several aspects of paranotal shape and leg structure are shown in Figures 1-4.

Loomis was probably correct in assuming conspecificity of material from St. Vincent and Grenada, but this status should ultimately be verified by examination of the type material

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of *vincentii*. Pocock's original description and illustrations are detailed and accurate; it appears that Chamberlin based *grenadanus* as much on its occupancy of a different small island as any tangible structural character.

It is interesting that H. H. Smith, who collected millipeds on both islands, did not encounter this species on Grenada although it was found there by Roland Thaxter in 1912 and by H. F. Loomis in 1932.

According to the latest version of the ICZN (date) Pocock's original spelling with the termination "ii" must be preserved. Presumably, he based the patronym on the Latinized form"Vincentius"of the saint's name, and not on the modern name of the island itself.

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